

# SEQUENCE LISTING

<110> STINSON, Jeffrey R.  
WONG, Hing  
O'BRIEN, ALISON  
SCHMITT, Clare K.  
MELTON-CELSA, Angela

<120> HUMANIZED MONOCLONAL ANTIBODIES THAT PROTECT AGAINST  
SHIGA TOXIN INDUCED DISEASE

<130> 04995.0032-00000

<140>

<141>

<160> 44

<170> PatentIn Ver. 2.0

<210> 1

<211> 45

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
Oligonucleotide

<400> 1

att tca ggc cca gcc ggc cat ggc cga rgt rma gct ksa kga gwc 45

<210> 2

<211> 45

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
Oligonucleotide

<400> 2

atttcaggcc cagccggcca tggccgargt ycarctkcar caryc 45

<210> 3  
<211> 45  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
Oligonucleotide

<400> 3  
atttcaggcc cagccggcca tggcccaggt gaagctksts gartc

45

<210> 4  
<211> 45  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
Oligonucleotide

<400> 4  
atttcaggcc cagccggcca tggccgargt rmagctksak gagwc

45

<210> 5  
<211> 45  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
Oligonucleotide

<400> 5  
atttcaggcc cagccggcca tggcccaggt bcarctkmar sartc

45

<210> 6  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
Oligonucleotide

<400> 6  
gaartavccc ttgaccaggc

20

<210> 7  
<211> 35  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
Oligonucleotide

<400> 7  
ggaggcggcg gttctgacat tgtgmtgwc cartc

35

<210> 8  
<211> 35  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
Oligonucleotide

<400> 8  
ggaggcggcg gttctgatrt tkygatgacb carrc

35

<210> 9  
<211> 35  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
Oligonucleotide

<400> 9  
ggaggcggcg gttctgayat ymagatgacm cagwc

35

<210> 10  
<211> 35  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
Oligonucleotide

<400> 10  
ggaggcggcg gttctsaaat tgwktsacy cagtc

35

<210> 11  
<211> 40  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
Oligonucleotide

<400> 11  
ttcataggcg gccgcactag tagcmcgttt cagytccarc

40

<210> 12  
<211> 40  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
Oligonucleotide

<400> 12  
ttcataggcg gccgcactag tagcmcgttt katytccarc

40

<210> 13  
<211> 23  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
Oligonucleotide

<400> 13  
gcacctccag atgttaactg ctc

23

<210> 14  
<211> 49  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
Oligonucleotide

<400> 14  
cttgatcgcg acagctacag gtgtccactc ccagggtgcag ctgcaggag

49

<210> 15  
<211> 36  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
Oligonucleotide

<400> 15  
ggtatggaat tctgaggaga ctgtgagagt ggtgcc

36

<210> 16  
<211> 36  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
Oligonucleotide

<400> 16  
ggttctgata tcgtgatgtc ccagtctcac aaattc

36

<210> 17  
<211> 42  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
Oligonucleotide

<400> 17  
gacatattcg aaaagtgtag ttacgtttca gctccagact gg

42

<210> 18  
<211> 366  
<212> DNA  
<213> Shigella dysenteriae

<400> 18  
caggtgcagc tgcaggagtc tggggctgag ctggtgaggt ctggggcctc agtgaggatg 60  
tcctgcaagg cttctggcta cacatttacc agttacaata tgcactgggt aaaacagaca 120  
cctggacagg gcctggaatg gattggatat atttatcctg gaaatggtgg tactaactac 180  
attcagaaat ttaagggcaa ggccatattg actgcagaca catcctccag cacagcctac 240

atgcagatca gcagttctgac atctgaagac tctgcggtct atttctgtac aagaagtccc 300  
 tctcactaca gtagtgaccc ctactttgac tactggggcc agggcaccac tctcacagtc 360  
 tcctca 366

<210> 19  
 <211> 122  
 <212> PRT  
 <213> Shigella dysenteriae

<400> 19  
 Gln Val Gln Leu Gln Glu Ser Gly Ala Glu Leu Val Arg Ser Gly Ala  
           1                  5                  10                  15  
 Ser Val Arg Met Ser Cys Asp Ala Ser Gly Tyr Thr Phe Thr Ser Tyr  
                   20                  25                  30  
 Asn Met His Trp Val Lys Gln Thr Pro Gly Gln Gly Leu Glu Trp Ile  
                   35                  40                  45  
 Gly Tyr Ile Tyr Pro Gly Asn Gly Gly Thr Asn Tyr Ile Gln Lys Phe  
           50                  55                  60  
 Lys Gly Lys Ala Ile Leu Thr Ala Asp Thr Ser Ser Ser Thr Ala Tyr  
           65                  70                  75                  80  
 Met Gln Ile Ser Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Phe Cys  
                   85                  90                  95  
 Thr Arg Ser Pro Ser His Tyr Ser Ser Asp Pro Tyr Phe Asp Tyr Trp  
                   100                  105                  110  
 Gly Gln Gly Thr Thr Leu Thr Val Ser Ser  
           115                  120

<210> 20  
 <211> 324  
 <212> DNA  
 <213> Shigella dysenteriae

<400> 20  
 gatatcgtga tgtcccagtc tcacaaattc atgtccacat cagtcggaga cagggtcagc 60  
 atcacctgta aggccagcca ggatgtgggt actgctgttg cctggtatca gcagaatcca 120  
 ggacaatctc ctaaatttct gatttactgg gcatccacac ggcacactgg agtccttgat 180  
 cgcttcacag gcagtggatc tgggacagat ttcactctca ccattaccaa tgtgcagtct 240

gaagacttgg cagattatatt ctgtcagcaa tatagcagtt atcctctcac gttcggtgct 300  
 gggaccagtc tggagctgaa acgt 324

<210> 21  
 <211> 108  
 <212> PRT  
 <213> Shigella dysenteriae

<400> 21  
 Asp Ile Val Met Ser Gln Ser His Lys Phe Met Ser Thr Ser Val Gly  
   1                  5                  10                  15  
 Asp Arg Val Ser Ile Thr Cys Lys Ala Ser Gln Asp Val Gly Thr Ala  
                   20                  25                  30  
 Val Ala Trp Tyr Gln Gln Asn Pro Gly Gln Ser Pro Lys Phe Leu Ile  
                   35                  40                  45  
 Tyr Trp Ala Ser Thr Arg His Thr Gly Val Pro Asp Arg Phe Thr Gly  
                   50                  55                  60  
 Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Thr Asn Val Gln Ser  
   65                  70                  75                  80  
 Glu Asp Leu Ala Asp Tyr Phe Cys Gln Gln Tyr Ser Ser Tyr Pro Leu  
                   85                  90                  95  
 Thr Phe Gly Ala Gly Thr Ser Leu Glu Leu Lys Arg  
                   100                  105

<210> 22  
 <211> 45  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
           Oligonucleotide

<400> 22  
 atttcaggcc cagccggcca tggccgargt rmagctksak gagwc 45

<210> 23  
 <211> 45  
 <212> DNA  
 <213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
Oligonucleotide

<400> 23

atttcaggcc cagccggcca tggccgargt ycarctkcar caryc

45

<210> 24

<211> 45

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
Oligonucleotide

<400> 24

atttcaggcc cagccggcca tggcccaggt gaagctksts gartc

45

<210> 25

<211> 45

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
Oligonucleotide

<400> 25

atttcaggcc cagccggcca tggccgavgt gmwgctkgtg gagwc

45

<210> 26

<211> 45

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
Oligonucleotide

<400> 26

atttcaggcc cagccggcca tggcccaggt bcarctkmar sartc

45

<210> 27

<211> 20

<212> DNA

<213> Artificial Sequence

<220>



<223> Description of Artificial Sequence: Synthetic  
Oligonucleotide

<400> 27

gaartavccc ttgaccaggc

20

<210> 28

<211> 35

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
Oligonucleotide

<400> 28

gctgccaccg ccacctgmrg agacdgtgas tgarg

35

<210> 29

<211> 35

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
Oligonucleotide

<400> 29

gctgccaccg ccacctgmrg agacdgtgas mgtrg

35

<210> 30

<211> 35

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
Oligonucleotide

<400> 30

gctgccaccg ccacctgmrg agacdgtgas cagrg

35

<210> 31

<211> 35

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
Oligonucleotide

<400> 31

ggaggcggcg gttctgacat tgtgmtgwc cartc

35

<210> 32

<211> 35

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
Oligonucleotide

<400> 32

ggaggcggcg gttctgatrt tkygatgacb carrc

35

<210> 33

<211> 35

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
Oligonucleotide

<400> 33

ggaggcggcg gttctgayat ymagatgacm cagwc

35

<210> 34

<211> 35

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
Oligonucleotide

<400> 34

ggaggcggcg gttctsaaat tgwktsacy cagtc

35

<210> 35

<211> 40

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
Oligonucleotide

<400> 35

ttcataggcg gccgcactag tagcmcgttt cagytccarc

40

<210> 36

<211> 40

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
Oligonucleotide

<400> 36

ttcataggcg gccgcactag tagcmcgttt katytccarc

40

<210> 37

<211> 52

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
Oligonucleotide

<400> 37

atatactcgc gacagctaca ggtgtccact ccgaagtcca actgcaacag cc

52

<210> 38

<211> 34

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
Oligonucleotide

<400> 38

attaatgaat tctgcggaga cggtgagagt ggtc

34

<210> 39

<211> 29

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
Oligonucleotide

<400> 39

ttaaatagata tcgtgctgtc acaatctcc

29

<210> 40

<211> 45

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
Oligonucleotide

<400> 40

taatcggttcg aaaagtgtac ttacgtttca gttccagctt ggtcc

45

<210> 41

<211> 339

<212> DNA

<213> Shigella dysenteriae

<400> 41

gacattgtgc tgtcacaatc tccatcctcc ctagttgtgt cagttggaga gaaggttact 60

atgagctgca agtctagtca gaggcctttta tatagtagaa atcaaaagaa ctacttggcc 120

tggtaccagc agaaaccagg gcagtctcct aaagtgtgta ttactggggc atctactagg 180

gaatctgggg tccctgatcg cctcacaggc agtggatctg ggacagattt cactctcacc 240

atcagcagtg tgaaggctga agacctggca gtttattact gtcagcaata ttatagttat 300

ccgctcacgt tcggtgctgg gaccaagctg gagctgaaa 339

<210> 42

<211> 113

<212> PRT

<213> Shigella dysenteriae

<400> 42

Asp Ile Val Leu Ser Gln Ser Pro Ser Ser Leu Val Val Ser Val Gly  
1 5 10 15

Glu Lys Val Thr Met Ser Cys Lys Ser Ser Gln Ser Leu Leu Tyr Ser  
20 25 30

Arg Asn Gln Lys Asn Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln

35

40

45

Ser Pro Lys Val Leu Ile Tyr Trp Ala Ser Thr Arg Glu Ser Gly Val  
50 55 60

Pro Asp Arg Leu Thr Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr  
65 70 75 80

Ile Ser Ser Val Lys Ala Glu Asp Leu Ala Val Tyr Tyr Cys Gln Gln  
85 90 95

Tyr Tyr Ser Tyr Pro Leu Thr Phe Gly Ala Gly Thr Lys Leu Glu Leu  
100 105 110

Lys

<210> 43

<211> 357

<212> DNA

<213> Shigella dysenteriae

<400> 43

gaagtccaac tgcaacagcc tggacctgag ctggagaagc ctggcgcttc agtgaaacta 60  
tcctgcaagg cttctgggta ctctttcact gactacaaca tgaactgggt gaagcagaac 120  
aatggagaga gccttgagtg gattggaaaa attgacccctt actatgggtgg tcctagctac 180  
aaccagaagt tcaaggacaa ggccacattg actgtagaca agtcttccag cacagcctac 240  
atgcagttca agagcctgac atctgaggac tctgcagtct attactgtac aagaggggga 300  
aatagggact ggtacttcga tgtgtggggc gcagggacca cgctcacctg ctccgca 357

<210> 44

<211> 119

<212> PRT

<213> Shigella dysenteriae

<400> 44

Glu Val Gln Leu Gln Gln Pro Gly Pro Glu Leu Glu Lys Pro Gly Ala  
1 5 10 15

Ser Val Lys Leu Ser Cys Lys Ala Ser Gly Tyr Ser Phe Thr Asp Tyr  
20 25 30

Asn Met Asn Trp Val Lys Gln Asn Asn Gly Glu Ser Leu Glu Trp Ile  
35 40 45

Gly Lys Ile Asp Pro Tyr Tyr Gly Gly Pro Ser Tyr Asn Gln Lys Phe  
50 55 60

Lys Asp Lys Ala Thr Leu Thr Val Asp Lys Ser Ser Ser Thr Ala Tyr  
65 70 75 80

Met Gln Phe Lys Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Tyr Cys  
85 90 95

Thr Arg Gly Gly Asn Arg Asp Trp Tyr Phe Asp Val Trp Gly Ala Gly  
100 105 110

Thr Thr Leu Thr Val Ser Ala  
115